

Appl. S.N. 10/065,846  
Amdt. Dated Nov. 23, 2005  
Reply to Office Action of Aug. 24, 2005

130733-1

### REMARKS/ARGUMENTS

This amendment is responsive to the Office Action mailed 08/24/2005 wherein claims 1, 2, 11, 16, 17, and 20 were rejected under 35 USC §102 (b) as being anticipated by Wischmann et al. (US 5,872,829); and claims 3, 6, 7, and 12 were rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103 (a) obvious over Wischmann (US 5,872,829). Claims 4, 5, 8-10 and 19 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Wischmann et al., in view of DeCarli et al. (US 5,262,945). Claim 13 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Wischmann et al., in view of Kennedy et al. (US 5,185,809). Claim 14 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Wischmann et al., in view of Jack et al. (US 2003/0135105). In this amendment, claims 16 and 18 have been amended. No new matter has been added.

Claims 1-20 remain pending in this application, not 1-30 as stated in the Office Action. Reconsideration in light of the above amendments and the following remarks is respectfully requested.

Claim 16 has been amended to more clearly recite the invention and claim 18 has been amended to have proper antecedent basis as dependent from claim 16. No new matter has been added by the amendments.

The rejection of Claims 1, 2, 11, 16 and 17 under 35 USC §102 (b) on Wischmann et al. is respectfully traversed. The present invention, as claimed in Claims 1, 2, 11, 16 and 17 is patentable over the Wischmann reference. "Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." W.L. Gore & Associates v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983).

Independent claims 1 and 16, as amended, each recite an analysis of phantom images acquired at different times or imaging sessions, calculating variations between phantom images acquired at the different times and using the calculated variations to correct examination images. in order correct examination data. Applicants' recited invention has particular applications in longitudinal studies of an anatomical region of interest, for example measuring differences in brain volume which is indicative of certain brain diseases. Applicants' invention accounts for changes in images by analyzing the image data of a known object, the phantom, at different imaging sessions. The Wischmann reference does not disclose each element of the present invention as claimed in claims 1 and 16. Specifically, the Wischmann reference does not teach or suggest the recited acquiring of phantom images at different times and thereafter using the variations to correct examination images. By contrast, the Wischmann reference instead teaches obtaining

Appl. S.N. 10/065,846  
Amdt. Dated Nov. 23, 2005  
Reply to Office Action of Aug. 24, 2005

130733-1

phantom images concurrent with obtaining examination images by placing the phantom body in the imaging zone such that the phantom image appears on the examination image (col. 6, lines 55-63). Thereafter, in the Wischmann technique, the phantom image is compared directly with the phantom body and any correction is based on the comparison of phantom image data relative to known phantom body coordinates (col. 6, line 64- col. 8, line 15). Nowhere does the Wischmann reference teach comparing phantom images acquired at different imaging sessions and basing the corrections on the analysis of respective phantom images as recited by Applicants. Further, nowhere does the Wischmann reference teach, suggest or disclose successive examination sessions. Therefore, the present invention, as claimed in Claim 1 and Claim 16 is not anticipated by the Wischmann reference. Claims 2, 11 and 17 depend directly or indirectly from claims 1 and 16, respectively. Accordingly, Applicants submit that claims 2, 11 and 17 are allowable by dependency.

Therefore, as stated above, the present invention, as claimed in Claims 1, 2, 11, 16 and 17 are patentable over the Wischmann reference. Thus, it is respectfully requested that the rejection of Claims 1, 2, 11, 16 and 17 under 35 USC §102(b) be withdrawn.

Applicants respectfully traverse the rejection of claims 3, 6, 7, and 12 under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103 (a) obvious over Wischmann. As stated with reference to the rejection under 35 USC §102(b) above, Applicants respectfully submits that the Wischmann reference does not show each element of Applicants' recited invention, as recited in independent claim 1. Claims 3, 6 and 7 depend from claim 1 and therefore, Applicants submit claims 3, 6 and 7 are allowable by dependency. Claim 12 depends from independent claim 10. Claim 10 recites a method for performing longitudinal examinations of a set of anatomical structures including steps of imaging, performing correction process and measuring for at least one successive examination for tracking the measured region of interest. The Wischmann references does not teach, disclose or suggest performing successive examination sessions and therefore nowhere does the reference teach or suggest making corrections between examination sessions. Therefore, the present invention, as claimed in Claims 1 and 10, is not anticipated by nor obvious due to the Wischmann reference. Claims 3, 6, 7 and 12 depend directly or indirectly from claims 1 and 10, respectively. Accordingly, Applicants submit that claims 3, 6, 7 and 12 are allowable by dependency.

Therefore, as stated above, the present invention, as claimed in Claims 3, 6, 7 and 12 are patentable over the Wischmann reference. Thus, it is respectfully requested that the rejection of Claims 3, 6, 7 and 12 under 35 USC §103 (a), or alternatively under 35 USC §102(b), be withdrawn.

Appl. S.N. 10/065,846  
Amdt. Dated Nov. 23, 2005  
Reply to Office Action of Aug. 24, 2005

130733-1

Applicants respectfully traverse the rejection of claims 4, 5, 8-10, 18 and 19 under 35 USC §103 (a) over the Wischmann reference in view of the DeCarli reference. As stated above, Applicants respectfully submit that the Wischmann reference does not teach, suggest or disclose Applicants' recited elements. Claim 1 recites performing automatic analysis of phantom images relative to images acquired at a previous time and correcting examination images using calculated variations between phantom images. Claim 10 recites imaging anatomical structures, performing an automatic correction process to correct for variations due to the imaging device, measuring selected regions within the anatomical regions and repeating for at least one successive examination. Claim 16 recites correction between first and successive imaging sessions. Nowhere does the Wischmann reference teach Applicants' recited correction process including correcting between previous and successive imaging sessions. The DeCarli reference does not overcome the above-noted deficiencies of the Wischmann reference. The DeCarli reference merely discloses methods for quantifying brain volume from MRI images acquired at different times. Nowhere does the DeCarli reference suggest, teach or disclose the importance of calibrating the MRI imaging equipment between imaging sessions nor does the DeCarli reference teach or suggest using phantoms to calibrate between sessions. Therefore, Applicants respectfully submit that there is no suggestion or motivation taught by the Wischmann and DeCarli references that would lead a person skilled in the art to combine these references, except by using Applicants' claimed invention as a guide.

It is well-established that in order to establish a *prima facie* case of obviousness, there must be some suggestion or teaching in the applied references to combine teachings. Applicants interpret the Office Action that the proposed modification would be to combine the calibration techniques of Wischmann with the brain volume measuring techniques of DeCarli. However, as Applicants state above, nowhere does the DeCarli reference discuss or teach that calibration between imaging sessions is needed therefore there is no suggestion that any calibration technique (e.g. the Wischmann technique) would need to be combined to improve MRI imaging of brain volume. Applicants respectfully submit that the Office Action fails to establish a *prima facie* case of obviousness since the Office Action did not provide a reasonable basis for combining the applied references. The mere fact that two references may be combined is insufficient to establish obviousness. There must be some teaching within the references to support an obviousness rejection. Therefore the claimed invention, as claimed in claims 4, 5, 8-10, 18 and 19 is not obvious over the Wischmann or DeCarli references, either taken alone or in combination.

Applicants respectfully request withdrawal of the rejection of claims 4, 5, 8-10, 18 and 19 under 35 USC §103 (a) over the Wischmann reference in view of the DeCarli reference

Appl. S.N. 10/065,846  
Amdt. Dated Nov. 23, 2005  
Reply to Office Action of Aug. 24, 2005

130733-1

Applicants respectfully traverse the rejection of claim 13 under 35 USC §103 (a) over the Wischmann reference in view of the Kennedy reference. As stated above, Applicants respectfully submit that the Wischmann reference does not teach the elements of independent claim 10, from which claim 13 depends. The Kennedy reference does not overcome the above-noted deficiencies of the Wischmann reference. The Kennedy reference merely discloses a method for measuring substructures of the brain. However, nowhere does the Kennedy reference teach Applicants' recited invention relating to correcting in successive examinations (claim 10), therefore no reasonable combination of the Kennedy and Wischmann references would obtain Applicants' recited invention of claim 13. Therefore the claimed invention, as claimed in claim 13 is not obvious over the Wischmann and Kennedy references.

Applicants respectfully request withdrawal of the rejection of claim 13 under 35 USC §103 (a) over the Wischmann reference in view of the Kennedy reference.

Applicants respectfully traverse the rejection of claim 14 under 35 USC §103 (a) over the Wischmann reference in view of the Jack reference. As stated above, Applicants respectfully submit that the Wischmann reference does not teach the elements of independent claim 10, from which claim 14 depends. The Jack reference does not overcome the above-noted deficiencies of the Wischmann reference. The Jack reference merely discloses a method for registering successive images. However, nowhere does the Jack reference teach Applicants' recited invention relating to correcting in successive examinations (claim 10), therefore no reasonable combination of the Kennedy and Jack references would obtain Applicants' recited invention of claim 14. Therefore the claimed invention, as claimed in claim 13 is not obvious over the Wischmann and Jack references.

Applicants respectfully request withdrawal of the rejection of claim 14 under 35 USC §103 (a) over the Wischmann reference in view of the Kennedy reference.

Therefore, Applicants' respectfully submit that claims 4, 5, 8-10, 13, 14, 18 and 19 are allowable and requests that all rejections under 35 USC §103 (a) be withdrawn.

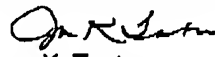
In view of the foregoing amendment and for the reasons set out above, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Appl. S.N. 10/065,846  
Amdt. Dated Nov. 23, 2005  
Reply to Office Action of Aug. 24, 2005

130733-1

Should the Examiner believe that anything further is needed to place the application in condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number below.

Respectfully submitted,

  
Jean K. Testa  
Reg. No. 39,396

General Electric Company  
Building K1, Room 3A62  
Schenectady, New York 12301

Nov. 23, 2005

Telephone: (518) 387-5115 or  
(518) 387-7122